

Application Number 10/693,335
Preliminary Amendment

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A programmer for a medical device comprising an internal antenna mounted on a first circuit board within a programmer housing, and a display mounted on a second circuit board within the programmer housing, wherein major planes of the first and second circuit boards are generally parallel to one another, and are disposed at a fixed separation distance relative to one another within the programmer housing.

Claim 2 (Currently Amended): The programmer of claim 1, ~~further comprising wherein:~~
~~a first circuit board within the programmer housing;~~ the first circuit board ~~including~~ includes telemetry circuitry, wherein the telemetry circuit is coupled to the internal antenna; and
~~a second circuit board within the programmer housing;~~ the second circuit board ~~including~~ includes the display and display circuitry.

Claim 3 (Original): The programmer of claim 2, wherein the second circuit board includes control circuitry to control the display and the telemetry circuit, the programmer further comprising an electrical interface between the first and second circuit boards.

Claim 4 (Currently Amended): The programmer of claim 23, wherein the control circuitry disables the display and the display circuitry during telemetry.

Claim 5 (Currently Amended): The programmer of claim 21, wherein the internal antenna is mounted to the first circuit board on a side of the first circuit board opposite the second circuit board.

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Claim 6 (Currently Amended): The programmer of claim ~~2~~1, wherein the internal antenna defines an aperture, the programmer further comprising a battery bay extending at least partially into the aperture.

Claim 7 (Currently Amended): The programmer of claim ~~2~~1, wherein the first circuit board and the second circuit board are substantially enclosed by a first housing member and a second housing member.

Claim 8 (Original): The programmer of claim 7, wherein the first housing member includes a molded area that defines a battery bay adjacent the first circuit board.

Claim 9 (Original): The programmer of claim 8, further comprising an access opening in the first housing member to gain access to the battery bay for placement of batteries.

Claim 10 (Currently Amended): The programmer of claim ~~2~~1, wherein the internal antenna, the first and second circuit boards, and the display are assembled in a stacked configuration.

Claim 11 (Original): The programmer of claim 2, further comprising an external antenna coupled to the telemetry circuitry via a cable.

Claim 12 (Previously Canceled).

Claim 13 (Currently Amended): The programmer of claim ~~2~~1, wherein the display is mounted to the second circuit board on a side of the second circuit board opposite the first circuit board.

Claim 14 (Original): The programmer of claim 1, wherein the display is a liquid crystal display.

Claim 15 (Original): The programmer of claim 1, wherein the display presents status information for the programmer.

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Claim 16 (Original): The programmer of claim 1, wherein the display presents status information for the medical device.

Claim 17 (Original): The programmer of claim 1, further comprising telemetry circuitry to transmit signals to the medical device via the antenna and process signals received from the medical device via the antenna.

Claim 18 (Original): The programmer of claim 1, further comprising a loading port to load instructions into memory in the programmer.

Claim 19 (Currently Amended): A method comprising:
communicating with a medical device via an antenna and telemetry circuitry mounted internally on a first circuit board within a medical device programmer; and
presenting information on a display mounted internally on a second circuit board within the medical device programmer,
wherein major planes of the first and second circuit boards are generally parallel to one another, and are disposed at a fixed separation distance relative to one another within the programmer housing.

Claim 20 (Original): The method of claim 19, further comprising disabling the display and display circuitry during telemetry.

Claim 21 (Currently Amended): The method of claim ~~20~~ 19, further comprising communicating with the medical device via an external antenna coupled to the telemetry circuitry via a cable.

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Claim 22 (Currently Amended): A programmer for an implantable neurostimulator, the programmer comprising:

a programmer housing;

an internal antenna mounted within the programmer housing on a first circuit board;

a display mounted within the programmer housing on a second circuit board;

telemetry circuitry to transmit signals to the neurostimulator via the internal antenna;

display circuitry to present information via the display; and

control circuitry to control the telemetry circuitry and the display circuitry, wherein the control circuitry disables the display and the display circuitry during telemetry.

wherein major planes of the first and second circuit boards are generally parallel to one another, and are disposed at a fixed separation distance relative to one another within the programmer housing.

Claim 23 (Previously Presented): The programmer of claim 22, further comprising:

a first circuit board within the programmer housing, the first circuit board including the telemetry circuitry; and

second circuit board within the programmer housing, the second circuit board including the display and display circuitry.

Claim 24 (Previously Presented): The programmer of claim 23, wherein the second circuit board includes the control circuitry, the programmer further comprising an electrical interface between the first and second circuit boards.

Claim 25 (Previously Presented): The programmer of claim 23, wherein the internal antenna is mounted to the first circuit board on a side of the first circuit board opposite the second circuit board.

Claim 26 (Previously Presented): The programmer of claim 23, wherein the internal antenna defines an aperture, the programmer further comprising a battery bay extending at least partially into the aperture.

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Claim 27 (Previously Presented): The programmer of claim 23, wherein the first circuit board and the second circuit board are substantially enclosed by a first housing member and a second housing member.

Claim 28 (Previously Presented): The programmer of claim 27, wherein the first housing member includes a molded area that defines a battery bay adjacent the first circuit board.

Claim 29 (Previously Presented): The programmer of claim 27, further comprising an access opening in the first housing member to gain access to the battery bay for placement of batteries.

Claim 30 (Previously Presented): The programmer of claim 23, wherein the internal antenna, the first and second circuit boards, and the display are assembled in a stacked configuration.

Claim 31 (Canceled):

Claim 32 (Currently Amended): The programmer of claim ~~31~~ 22, wherein the display is a liquid crystal display.

Claim 33 (Previously Presented): The programmer of claim 22, wherein the display presents status information for the programmer.

Claim 34 (Previously Presented): The programmer of claim 22, wherein the display presents status information for the medical device.

Claim 35 (Previously Presented): The programmer of claim 22, wherein the telemetry circuitry transmits signals to the medical device via the antenna and processes signals received from the medical device via the antenna.

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